



3617/B6/6

PTO/SB/21 (03-03)

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TRANSMITTAL  
FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10 / 050, 937
Filing Date	JANUARY 22, 2002
First Named Inventor	JAN H. ZICHA
Art Unit	3617
Examiner Name	FRANTZ F. JULES

Attorney Docket Number

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input checked="" type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input checked="" type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to a Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):
Remarks		

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## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual	JAN HERMAN ZICHA	
Signature	Jan H. Zicha	
Date	APRIL 11, 2003	

## CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: \_\_\_\_\_

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This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

United States Patent and Trademark Office  
Washington DC 20231



Date: September 18, 2003

Subject: Application No. 10/050,937, Internally Resilient Tie for Railway Track,  
Re-submittal of Documents Dated April 11, 2003

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Gentlemen,

The Notice of Abandonment dated September 5, 2003 is indicative of a loss of my documents submitted in person on April 11, 2003, in reply to the Office Action dated January 12, 2003. Please find enclosed another set of the following documents:

1. Reply letter dated April 11, 2003. Five pages.
2. Transmittal form stamped by the United States Patent and Trademark Office on April 11, 2003. One page.
3. Supplemental Declaration for Utility or Design Patent Application (37 CFR 1.63). Two pages.
4. Corrected Specification. Twelve pages.
5. Drawings. Six pages.
6. One CD including theoretical reference

Sincerely Yours,

*Jan H. Zicha*  
Jan H. Zicha



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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SEP 24 2003

10/50,937

01/22/2002

Jan Herman Zicha

3863

7590

09/09/2003

Jan H. Zicha  
7414 Lake Glen Drive  
Glenn Dale, MD 20769

[REDACTED] EXAMINER

JULES, FRANTZ F

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

3617

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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### Notice of Abandonment

	Application No.	Applicant(s)
	10/050,937	ZICHA, JAN HERMAN
	Examiner	Art Unit
	Frantz F. Jules	3617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1.  Applicant's failure to timely file a proper reply to the Office letter mailed on 01/15/03.
  - (a)  A reply was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply (including a total extension of time of \_\_\_\_\_ month(s)) which expired on \_\_\_\_\_.
  - (b)  A proposed reply was received on \_\_\_\_\_, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.  
(A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
  - (c)  A reply was received on \_\_\_\_\_ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
  - (d)  No reply has been received.
  
2.  Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
  - (a)  The issue fee and publication fee, if applicable, was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
  - (b)  The submitted fee of \$\_\_\_\_\_ is insufficient. A balance of \$\_\_\_\_\_ is due.  
The issue fee required by 37 CFR 1.18 is \$\_\_\_\_\_. The publication fee, if required by 37 CFR 1.18(d), is \$\_\_\_\_\_.
  - (c)  The issue fee and publication fee, if applicable, has not been received.
  
3.  Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
  - (a)  Proposed corrected drawings were received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply.
  - (b)  No corrected drawings have been received.
  
4.  The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.
  
5.  The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.
  
6.  The decision by the Board of Patent Appeals and Interference rendered on \_\_\_\_\_ and because the period for seeking court review of the decision has expired and there are no allowed claims.
  
7.  The reason(s) below:

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FRANTZ F. JULES  
PATENT EXAMINER  
  
FFJ 09/05/03

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

Mr. Frantz F. Jules  
Examiner



United States Patent and Trademark Office  
Washington DC 20231

Date: April 11, 2003

Subject: Application No. 10/050,937, Internally Resilient Tie for Railway Track

#6/Response  
3/10/04  
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Please return to:  
Do Not Enter Amt  
S/30/04

Dear Mr. Jules,

Enclosed are corrected Specification, Drawings and Supplemental Declaration of the patent application No. 10/050,937 in reply to Office Action dated January 12, 2003.

The deficiencies described on pages 2 thru 11, top page, of your correspondence dated January 2003 have been corrected and supplemental information included in the revised version. The functional aspects of the invention were moved to the Background and Brief Description of Invention sections of the application. The dynamic aspects of mechanical action of the internally resilient tie mentioned in the original application are expanded in its enclosed revision because they are essential to the invention and constitute essential improvement over the present state of art. The revised text of application is restricted to ballasted track because its ballastless form constitutes prior art.

The deficiencies listed on pages 2 through 11 top of your correspondence dated January 12, 2003, have been corrected. The statements concerning the rejections based on stated

instances of non-compliance with the law 35 USC § 103 and the rule M.P.E.P Section 2142 are opposed on the following grounds:

1. The invention possesses improved properties "not expected by prior art" in compliance with M.P.E.P. Section 2142. While similarly looking devices that incorporate blocks inside ties were patented previously, they were intended to add only constant and static elasticity to the track supporting system. In order to make these devices usable in a contemporary ballasted track, they must reflect dynamic properties of track/train interaction and be adjustable to compensate for variations within the subgrade and subsoils of the track as described in the revised Background of the Invention. Proper dimensioning and selection of materials for internally resilient ties to be used successfully in ballasted track require advanced design process that is not a part of prior art and is not obvious to one of ordinary skill in the art. As evidence, the report DTFR 53-00-P-00377, Upgrading Track and Roadbed for High Speed Rail Operations, authored by myself, submitted to Federal Railroad Administration on January 30, 2001, after the original submittal of application for provisional patent titled Resilient Ties for Railway Track, is enclosed in electronic form on a CD disk. This report is currently under review at Voelpe Center and has not been published to date. The report includes theory and examples of analyses descriptive of the general dynamic theory of railway track and its relevant special applications, none of which has been developed as a part of work on the referred federally sponsored research report but existed previously.

2. Patentability over Sonnevile and Vanohacker

Sonneville's Low Vibration Track is properly dynamically designed. It has several times higher longevity than any other type of track and requires very little maintenance. However, it is restricted to ballastless track while it is never used and cannot be used in a ballasted track as described in the revised Background of the Invention. Vanohacker's rail fastener is very different, does not introduce the desirable mass of sufficient magnitude into the dynamic track train interaction diagram which is depicted in added Fig.6, and closely resembles previous fasteners broadly utilized in ballastless track applications in Holland, Germany, Austria, Czech Republic, and Philadelphia in the USA for last four decades.

Installations of Vanohacker's fasteners in ballasted track are unknown. Experience with these fasteners, and the demands of contemporary railway operations reflected in specifications of successful railroads, such as specifications of Euro-Tunnel, 1989, indicate that the elastomer utilized by Vanohacker would be either too soft to endure high frequency vibrations that reduce longevity of such elastomers in a railway track, or too stiff to significantly reduce the spread of low frequency vibrations that are damaging to the track and that are also environmentally objectionable. Dampening of this kind of devices is usually negligible in comparison with the extraordinary dampening capacity of Sonneville's LVT system which is a key parameter responsible for the LVT's success. In a contrary, intense maintenance of fasteners similar to the one of Vanohacker is a daily occurrence inherent to prior art. It is not clear how a mixture of these two dissimilar devices would make the concept of internally resilient ties obvious.

3. Mc Calum's device is interesting from its historical point of view. However, its block is too small to offer sufficient reduction of kinetic energy before it reaches its vertical elastic components while no lateral resilience exists. In the absence of a stiff railpad, its elastic members will be likely destroyed by high frequency vibrations from contemporary trains. Lateral dynamic activities will wear the vertical interfaces in a short time so that gauge of the rail would not be maintainable. The similarity and intended purpose of Mc Calum's device are far remote to the ones of internally resilient ties. Mc Calum's device is unique and never seen in railroad practice. It is hardly known to "one of ordinary skill in the art" to view it in a connection with Sonnevilles and Vonahacker's devices to make the concept of internally resilient ties obvious.
  
4. J. McCourt's device includes wooden blocks that are too small and light to make a difference in the dynamic track/train interaction diagram. The blocks cannot be enlarged due to the utilized round rail fasteners that also restrict the movement of blocks that is needed for absorption of kinetic energy of vibrations should this device was dynamically loaded by contemporary trains. In the absence of an elastomeric rail pad, this device offers mere substitution of rail pads by wooden blocks. It is apparently a long time forgotten predecessor of standard rail pads. Its similarity and intended purpose are far remote to the ones of internally resilient ties. J. McCourt's device is unique and never seen in railroad practice. It is hardly

known to "one of ordinary skill in the art" to view it in a connection with Sonnevilles LVT track to make the concept of internally resilient ties obvious.

5. The construction of a new high speed rail line in Germany between Frankfurt and Koln am Rein, as well as upgrades of existing lines for high speed operations worldwide involve costly replacements of soils in ten to fifteen feet depths, or construction of embankments in otherwise good quality soil areas to ensure dynamic uniformity of the subgrade and subsoils of the track foundation wherever the underlaying soils vary. Attempts to achieve uniformity of the overall dynamic response of ballasted track at rail pads have been made and did not work. Should the concept of internally resilient ties was obvious, it would be already in use saving time and capital investment costs on high speed rail projects.

Sincerely Yours,

Jan H. Zicha, P.E.



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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/050,937	01/22/2002	Jan Herman Zicha	

Jan H. Zicha  
7414 Lake Glen Drive  
Glenn Dale, MD 20769



Title: Internally resilient tie for railway track

Publication No. US-2003-0136858-A1  
Publication Date: 07/24/2003

CONFIRMATION NO. 3863



OC000000010554037

## NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publicly available Searchable Databases via the Internet at [www.uspto.gov](http://www.uspto.gov). The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

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